Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1.   (Currently amended) A method for handoff from a first node in a wireless network, the method comprising:

reserving a first radio resource for the first node in the wireless network;

detecting a target node, wherein the first node is coupled to the target node;

reserving a second radio resource for the target node, wherein an amount of the second radio resource is equal to that of the first radio resource;

sending a relocation request message from the first node to the target node;

bi-casting an acknowledge message from the target node to the first node and a core network; and

performing the handoff.

2.   (Original) The method of claim 1 further comprising determining the first radio resource by a controlling system in the wireless network, wherein the controlling system is coupled to the first node and the target node.

3.   (Original) The method of claim 1 wherein the second radio resource may be used for low priority traffic prior to perform the handoff.

4.   (Original) The method of claim 1 further comprising negotiating a change in service for the handoff if the target node is not able to perform the handoff.

5.   (Original) The method of claim 4 wherein the negotiation is dependent on a class of service.

6.   (Previously presented) A method for performing handoff from an originating Radio Network Subsystem (RNS) in a wireless network, the method comprising:

determining a target RNS, wherein the target RNS is coupled to the originating RNS;

sending a relocation started message from the originating RNS to a Core Network (CN), wherein the CN is coupled to the originating RNS and the target RNS;

receiving, at the CN, the relocation started message;

reserving, by the target RNS, radio resources;

bi-casting, from the target RNS to the originating RNS and the CN, an acknowledge message; and

completing the handoff to the target RNS.

7.   Cancelled.

8.   (Previously presented) The method of claim 6, wherein the relocation request message comprises information pertaining to a radio resource bearer identifier.

9.   (Previously presented) The method of claim 6, wherein the relocation request message comprises information pertaining to resource reservation.

10.   (Previously presented) The method of claim 6, wherein the relocation request message comprises information pertaining to an Internet Protocol (IP) address.

11.   (Previously presented) The method of claim 6, wherein the relocation request message comprises information pertaining to an uplink tunnel state.

12.   (Cancelled)

13.   (Original) The method of claim 6 wherein the acknowledge message contains an IP address of a packet processing function in the target RNS.

14.   (Original) The method of claim 6 wherein the acknowledge message prepares a tunnel to the CN for uplink packets.

15.   (Original) The method of claim 6 further comprising preparing, by the CN, the tunnel for downlink packets prior to completing the handoff to the target RNS.

16.   (Original) The method of claim 15 further comprising sending, by the CN, the downlink packets to the originating RNS and the target RNS.

17.   (Original) The method of claim 16 comprising buffering, by the target RNS, the downlink packets.

18.   (Original) The method of claim 6 further comprising sending, by the originating RNS, a relocation commit message that comprises information relating to a last downlink packet that was sent after completing the handoff to the target RNS.

19.   (Original) The method of claim 18, wherein the relocation commit messages are sent to the target RNS.

20.   (Original) The method of claim 19 further comprising transmitting, by the target RNS, a next downlink packet in its buffer.

21.   (Original) The method of claim 18, wherein the relocation commit message is sent to the CN.

22.   (Original) The method of claim 21 further comprising suspending, by the CN, the downlink packet transmission to the originating RNS.

23.   (Original) The method of claim 22 comprising sending, by the CN, the downlink packets to the target RNS.

24.   (Currently amended) A system for performing handoff from an originating Radio Network Subsystem (RNS) in a wireless network, the system comprises:

means for determining, by the originating RNS, a target RNS, wherein the target RNS is coupled to the originating RNS;

means for sending, by the originating RNS, a relocation started message to a Core Network (CN), wherein the CN is coupled to the originating RNS and the target RNS;

means for receiving, at the CN, the relocation started message;

means for reserving, by the target RNS, radio resources;

means for ~~sending~~ bi-casting, from the target RNS to the originating RNS and the CN, an acknowledge message;

means for preparing, by the acknowledge message, a tunnel to the CN for uplink packets;

means for preparing, by the CN, a tunnel for downlink packets prior to completing the handoff to the target RNS;

means for ~~sending~~ bi-casting, by the CN, the downlink packets to the originating RNS and the target RNS; and

means for completing the handoff to the target RNS.

25.   (Original) The system of claim 24 further comprises means for sending a relocation request message to the target RNS prior to the relocation started message being sent.

26.   (Currently amended) ~~The system of claim 24 further comprises~~ A system for performing handoff from an originating Radio Network Subsystem (RNS) in a wireless network, the system comprises:

means for determining, by the originating RNS, a target RNS, wherein the target RNS is coupled to the originating RNS;

means for sending, by the originating RNS, a relocation started message to a Core Network (CN), wherein the CN is coupled to the originating RNS and the target RNS;

means for receiving, at the CN, the relocation started message;

means for reserving, by the target RNS, radio resources;

means for sending, from the target RNS, an acknowledge message;

means for preparing, by the acknowledge message, a tunnel to the CN for uplink
packets;

means for preparing, by the CN, a tunnel for downlink packets prior to completing the
handoff to the target RNS;

means for sending, by the CN, the downlink packets to the originating RNS and the
target RNS;

means for completing the handoff to the target RNS; and

means for receiving, by the originating RNS and the CN, the acknowledge message.

27-29. (Cancelled)

30.   (Previously presented) The system of claim 24 further comprises means for
buffering, by the target RNS, the downlink packets.

31-45. (Cancelled)

46.   (Previously presented) A method for performing a handoff of a mobile device
from a source radio network subsystem (RNS) to a target RNS in a wireless network, the
method comprising:

sending a relocation request message from the source RNS to the target RNS, wherein
the relocation request message includes radio access bearer identifier information, resource
reservation information, and an internet protocol (IP) address of a core network (CN) packet
processing node serving the mobile device;

sending a relocation started message from the source RNS to the packet processing
node;

reserving, by the target RSN, radio resources identified in the relocation request
message;

bi-casting a relocation acknowledgement message from the target RNS to the packet
processing node and the source RNS, wherein the relocation acknowledgement message
includes an IP address of a packet processing function within the target RNS;

bi-casting downlink packets from the packet processing node to the source RNS and the
packet processing function within the target RNS;

buffering the downlink packets at the target RNS;

sending a relocation commit message from the source RNS to the target RNS identifying a last packet sent from the source RNS to the packet processing node; and

sending packets from the target RNS to the mobile device beginning with a first packet, wherein the first packet is a buffered packet that immediately follows the last packet identified in the relocation commit message.

47.   (Previously presented) The method of claim 46 wherein the relocation request message includes tunnel information, and wherein the method further comprises setting up a tunnel for uplink packets from the target RNS to the packet processing node, and setting up a tunnel for downlink packets from the packet processing node to the target RNS.

48.   (Previously presented) The method of claim 46 further comprising determining, by the source RNS, the target RNS.

49.   (Previously presented) The method of claim 46 further comprising, upon receiving the relocation started message, waiting by the packet processing node for a relocation request acknowledgement message from the target RNS.